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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,392	07/31/2001	Kazuhiro Takahashi	52437/25	3415

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EXAMINER
WESSMAN, ANDREW E

ART UNIT	PAPER NUMBER
1742	3

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

mk-3

Office Action Summary	Application No. 09/919,392	Applicant(s) TAKAHASHI ET AL.	
	Examiner Andrew E Wessman	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

for Reply

SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM E MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

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1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-4 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-4 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: All claims should end with a period. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 3 recites the limitation "the preliminary working" in claim 1. There is insufficient antecedent basis for this limitation in the claim. The preliminary working of the titanium is first mentioned in claim 2, and it is the examiner's opinion that a clerical error was made and claim 3 should most likely depend from claim 2. Clarification is required.

5. The term "excellent impact resistance" in claims 1-4 is a relative term which renders the claim indefinite. The term "excellent" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. There is no basis on which to show the "excellent" impact resistance, it is recommended that some kind of basis is provided for the term "excellent" to be based on, or that the limitation be deleted.

Claim R j ctions - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Great Britain Patent No. 1,304,572.

Great Britain Patent No. 1,304,572, hereinafter referred to as GB '572, anticipates the invention. GB '572 discloses (page 1, lines 23-33) a titanium alloy having less than 0.1wt% carbon, less than 0.05wt% nitrogen, and less than 0.1wt% oxygen, which would give a total of less than 0.25wt% of the total of those elements, substantially overlapping applicant's claimed range of 0.04-0.27wt% of the total of those elements. GB '572 also discloses (page 1, line 28) the alloy having less than 0.05wt% iron, overlapping applicant's claimed range of 0.1wt% iron. See also the table on page 1 for example alloys meeting applicant's claimed ranges. GB '572 also discloses (page 1, lines 34-48) the having a Vickers hardness of less than 170. For the examples of compositions given in the table on page 1, of GB '572, the composition would meet the range required for applicant's equation (2), and would give a Vickers hardness range of 158-217, so the value of less than 170 given in GB '572 meets the hardness of applicant's claimed invention and the compositional ranges of applicant's claimed invention. While GB '572 does not specifically recite work hardening the alloy, this is a process limitation, and is given little patentable weight in a product claim. Even though

product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See also MPEP 2113. Because the product of GB '572 and the claimed invention are substantially the same in view of their compositions and hardnesses, GB '572 anticipates the claimed invention.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Great Britain Patent No. 1,304,572 in view of Seeger et al. (U.S. Patent No. 5,666,841).

GB '572 is discussed in above paragraph 6.

GB '572 does not specifically teach applying the preliminary working step to the alloy.

Seeger et al. teaches (col. 4, lines 5-34) finish rolling the component after work hardening the component, and teaches that the finish rolling provides the advantage of obviating small irregularities in order to provide a finished product with improved surface

quality and corrosion resistance. Seeger et al. also teaches (see claim 1) that such techniques are useful in titanium and titanium alloy components.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to perform work hardening before finish rolling the component as taught by Seeger et al. on the alloy of GB '572 in order to provide an improved surface finish and corrosion resistance, as taught by Seeger et al. (col. 4, lines 5-34).

In regards to the features of claim 3, GB '572 does not teach preliminary rolling in the direction perpendicular to the direction of hot or cold rolling.

Seeger et al. teaches (col. 3, lines 1-22) that rolling in multiple, mutually perpendicular directions is useful for creating internal stresses in such a manner that intercept loads occurring along the loading axis, and that this is also useful for combating crack growth and corrosion.

It would have been obvious to one of ordinary skill in the art to perform the rolling in multiple directions as taught by Seeger et al. on the alloy of GB '572 in order to form internal stresses to improve crack growth and corrosion resistance, as taught by Seeger et al. (col. 2, lines 1-22).

In regards to the features of claim 4, GB '572 teaches (page 1, lines 24 and 34) that the alloy may be used in an annealed condition.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew E Wessman whose telephone number is

(703)305-3163. The examiner can normally be reached on Monday through Friday, 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703)308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

AEW
September 20, 2002

ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700